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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,731	10/03/2003	Jung-gug Pae	1293.1892	4879
21171	7590	07/12/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			NGUYEN, LINH THI	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/677,731	<b>Applicant(s)</b> PAE ET AL.	
	<b>Examiner</b> Linh T. Nguyen	<b>Art Unit</b> 2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 10-15, 18, 22, 27 and 30 are rejected under 35 U.S.C. 102(b) as being unpatentable by Takehiro (JP Publication number 2002083434).

In regards to claims 1, 22, 27 and 30, Takehiro discloses a CD-DVD compatible optical pickup (Paragraph [0020], lines 1-2), actuator and method, comprising: an optical output module having a mount and first and second light sources (Fig. 1, elements 36 and 40), positioned adjacent to each other on the mount emitting light beams having different wavelengths (Paragraph [0017], lines 2-4); an objective lens focusing light emitted from the first and second light sources onto two types of optical recording media (Fig. 1, element 54b); an optical path conversion unit positioned on an optical path between the optical output module and the objective lens (Fig. 1, element 52), converting a traveling path of incident light; a photodetector (Fig. 1, element 60) receiving the light beams emitted from the first and second light sources, reflected from the optical recording media, and passed through the optical path conversion unit (Fig. 1), detecting a data signal and an error signal (Paragraph [0022]), lines 1-3); and an actuator having a movable member (Fig. 9, element 100) in which the objective lens is installed (Fig. 9, element 54b), moving the objective lens in a direction to compensate a

focusing error signal and a tracking error signal, the actuator rolling the movable member (inclination), in a case where recording and/or reproduction of data is performed (Paragraph [0040], lines 6-9), using a light beam deviated from a main axis of the objective lens among the light beams emitted from the first and second light sources (Fig. 1).

In regards to claim 14, Takehiro discloses an optical recording and/or reproducing apparatus (Fig. 1), comprising: a spindle motor rotating an optical recording medium positioned in a turntable (It is well known in the art.); an optical pickup installed to be movable in a radius direction of the optical recording medium and performing recording and/or reproduction of data with respect to the optical recording medium (Fig. 1); a driving unit driving the spindle motor and the optical pickup; and a controller controlling a focusing servo and a tracking servo of the optical pickup (Fig. 1, element 127 and 120), wherein the optical pickup includes: an optical output module having a mount and first and second light sources positioned adjacent to each other on the mount emitting light beams having different wavelengths (Fig. 1, element 50); an objective lens (Fig. 1, element 54b) focusing light emitted from the first and second light sources onto two types of optical recording media (Fig. 1, elements Ld and Lc on C=CD and D=DVD); an optical path conversion unit disposed on an optical path between the optical output module and the objective lens (Fig. 1, elements 52 and 53), converting a traveling path of incident light (Fig. 1, elements Lcf and Ldf); a photodetector receiving the light beams emitted from the first and second light sources (Fig. 1, element 60),

reflected from the optical recording media, and passed through the optical path conversion unit (Fig. 1, element 56), and detecting a data signal and an error signal (Fig. 2); and an actuator having a movable member in which the objective lens is installed (Fig. 9, element 100), and moving the objective lens in a direction to compensate a focusing error signal and a tracking error signal (Fig. 1, elements 127 and 120), the actuator rolling the movable member in a case where recording and/or reproduction of data is performed (Paragraph [0040], lines 6-9), using a light beam deviated from a main axis of the objective lens among the light beams emitted from the first and second light sources (Fig. 1).

In regards to claims 2 and 15, Takehiro discloses the CD-DVD compatible optical pickup and apparatus, wherein the actuator includes: a base on which the optical output module, the optical path conversion unit, and the photodetector are installed (Fig. 9, element 140 is the actuator which comprise of the optical pickup); a holder installed on the base (Fig. 9, element 153); a plurality of elastic members (Fig. 9, elements 116-119), each having one end coupled to the holder and another end coupled to the movable member (Fig. 9, element 100) such that the movable member is supported movably (Fig. 9), and having different stiffness (Paragraph [0044], members are made with different type of material, therefore have different stiffness) with respect to the center of the objective lens such that the movable member asymmetrically moves in a focusing direction of the optical recording media (Paragraph [0046], lines 11-14); and a magnetic driving unit driving the movable member in the focusing direction and a

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tracking direction of the optical recording media due to an electromagnetic force of the magnetic driving unit (Paragraph [0040], lines 1-9).

In regards to claims 5 and 18, Takehiro discloses the CD-DVD compatible optical pickup and apparatus, wherein the magnetic driving unit includes: focusing coils (Fig. 9, elements 152a-b) and tracking coils installed on the moving member (Fig. 9, elements 151a-b); and a magnet generating the electromagnetic force driving the movable member in the focusing direction and the tracking direction of the optical recording media (Fig. 9, direction F and T) due to an interaction between the magnet (Fig. 9, element 153) and a current flowing in the focusing coils, and an interaction between the magnet and a current flowing in the tracking coils (Paragraph [0058], lines 5-10).

In regards to claim 10, Takehiro discloses the CD-DVD compatible optical pickup according to claim 1, wherein the light reflected from a CD is on-axis light and light reflected from a DVD is off-axis light (Fig. 1).

In regards to claim 11, Takehiro discloses the CD-DVD compatible optical pickup according to claim 1, wherein the light reflected from a CD is off-axis light and light reflected from a DVD is on-axis light (Fig. 1).

In regards to claim 12, Takehiro discloses the CD-DVD compatible optical pickup according to claim 1, wherein the actuator rolling the movable member forms a

substantially circular spot on at least one of the two types of optical recording media (Fig. 7 and 8).

In regards to claim 13, Takehiro discloses the CD-DVD compatible optical pickup according to claim 1, wherein an adjustment in an angle of inclination of the movable member forms a substantially circular spot on at least one of the two types of optical recording media (Fig. 7 and 8).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 6-9, 16, 17, 19-21, 23-26, 28, 29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehiro in view of Kikuchi et al (US Patent number 6570828).

In regards to claims 3, 16 and 23, Takehiro discloses the CD-DVD compatible optical pickup, apparatus and actuator of claims 2, 15 and 22.

Takehiro does not but Kikuchi et al discloses an optical pickup, wherein the stiffness of the elastic member positioned nearer an inner circumference of the optical recording media, with respect to the radius direction of the optical recording media, is

different from that of the elastic member positioned nearer an outer circumference of the optical recording media due to a difference in thickness between the plurality of elastic members (Column 5, lines 61-67 and Column 6, lines 1-8). Furthermore, in regards to claims 4, 17, 24, 28 and 31, Takehiro does not but Kikuchi et al discloses optical pickup, apparatus, actuator and method, wherein the stiffness of the elastic member positioned nearer the outer circumference is less than that of the elastic member positioned nearer the inner circumference (Column 6, lines 3-9). Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the elastic members of Takehiro to have a different stiffness from the inner circumference of the optical recording medium to the outer circumference as taught by Kikuchi et al. The motivation for doing so would have been to make the objective lens become perpendicular to the signal recording surface of the disk-like optical recording medium, the optical pickup device is able to reproduce the recorded signal reliability (Kikuchi et al, Column 6, lines 9-19).

In regards to claims 6, 29 and 32, Takehiro does not but Kikuchi et al discloses optical pickup, actuator and method, wherein the electromagnetic force suppresses the actuator rolling the movable member (Column 9, lines 30-41; changing the spring constants the objective lens is alleviate in accordance with the height (focus), therefore, suppressing the rolling movement). The motivation for doing so would have been to improve the deterioration of the reproduce signal.



In regards to claims 7 and 19, Takehiro discloses the CD-DVD compatible optical pickup and apparatus, wherein the actuator includes: a base on which the optical output module, the optical path conversion unit, and the photodetector are installed (Fig. 9, element 140 is the actuator which comprise of the optical pickup); a holder installed on the base (Fig. 9, element 153); a plurality of elastic members (Fig. 9, elements 116-119), each having one end coupled to the holder and another end coupled to the movable member (Fig. 9, element 100) such that the movable member is supported movably (Fig. 9), and a magnetic driving unit driving the movable member in the focusing direction and a tracking direction of the optical recording media by an electromagnetic force (Paragraph [0040], lines 1-9).

Takehiro does not but Kikuchi et al discloses the optical pickup wherein the length of the elastic member positioned nearer an inner circumference of the optical recording media with respect to the radius direction of the optical recording medium being different from that of the elastic member positioned nearer an outer circumference of the optical recording medium (Column 5, lines 61-67 and Column 6, lines 1-8) such that the movable member asymmetrically moves in a focusing direction of the optical recording media (It is obvious that movable member is not symmetrical, if the actuator is skew). The motivation is the same as claim 3 above.

In regards to claims 8, 20, 25 and 26, Takehiro does not but Kikuchi et al discloses an optical pickup, apparatus and actuator, wherein the length of the elastic member positioned nearer the outer circumference is longer than that of the elastic member

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positioned nearer the inner circumference (Fig. 2, even though, the length of the width is longer in the inner circumference but in Takehiro, paragraph [0049], lines 11-24, the design of the suspension depends on the dynamics of the moveable object to be in the center of the axial inclining from the focus, therefore, the suspension can either be longer in the outer or the inner just so it compensate to the center of focus).

In regards to claims 9 and 21, Takehiro discloses the CD-DVD compatible optical pickup and apparatus, wherein the magnetic driving unit includes: focusing coils (Fig. 9, elements 152a-b) and tracking coils installed on the moving member (Fig. 9, elements 151a-b); and a magnet generating the electromagnetic force driving the movable member in the focusing direction and the tracking direction of the optical recording media (Fig. 9, direction F and T) due to an interaction between the magnet (Fig. 9, element 153) and a current flowing in the focusing coils, and an interaction between the magnet and a current flowing in the tracking coils (Paragraph [0058], lines 5-10).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN  
June 21, 2006

  
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SUPERVISORY PATENT EXAMINER